

XP-002269189

AN - 1997-381275 [35]

AP - JP19950327564 19951215

CPY - HARA-I

- POKK

DC - B06 B07

DR - 1755-U

FS - CPI

IC - A61K9/50 ; B01J2/00 ; B01J13/10 ; B01J13/14 ; C01B25/32

MC - B04-C02C B04-C02D B04-N04 B05-B02A3 B12-M11E B14-H01

M2 - [01] A220 A940 B115 B701 B713 B720 B815 B831 C101 C108 C802 C804 C805 C807 M411 M431 M782 M903 M904 M910 P633 R033; R01755-M; 1755-U

- [02] A220 A940 B115 B701 B713 B720 B815 B831 C101 C108 C550 C730 C802 C804 C805 C807 M411 M431 M782 M903 M904 P633 R033; R03521-M

PA - (HARA-I) HARADA N

- (POKK) POLA CHEM IND INC

PN - JP9165328 A 19970624 DW199735 A61K9/50 005pp

PR - JP19950327564 19951215

XA - C1997-122331

XIC - A61K-009/50 ; B01J-002/00 ; B01J-013/10 ; B01J-013/14 ; C01B-025/32

AB - J09165328 Microspheres containing a water insoluble metal phosphate,

particularly hydroxyapatite or calcium phosphate, and having average diameters of 0.01-10 mm are used as a blood vessel occlusion agent.

The microspheres are prepared by dropping a solution containing a water soluble phosphate, an organic polymer, particularly sodium alginate, xanthan gum, locust bean gum, sodium carboxy-dextran, carrageenan and/or pectin, and water in an aqueous hardener solution containing a water soluble metal salt forming water insoluble phosphate, and precipitating spheres containing a water insoluble metal phosphate and organic polymer.

- USE - Used for treatment of cancer in deep organs, particularly cancer of pancreas, liver, gall bladder or spleen, especially used as injection preparations.

- ADVANTAGE - Inhibition of nutrient supply to cancer foci is effected by obstructing blood vessels without injuring the inner surface of the blood vessel. Hydrophilic organic polymer produces spheres which absorb water soluble medicines within the spheres as a carrier of anticancer agent.

- In an example, 0.1M $(\text{NH}_4)_2\text{HPO}_4$ solution containing 2 wt.% sodium alginate was dropped in 0.5 M $\text{Ca}(\text{NO}_3)_2$ adjusted to pH 9 with Et_3N with an injection needle. The spheres were collected to give spheres having diameter of 400 microns. In abdominal cavity of anaesthetised male Wistar rat, 21 mg of 32P-labelled spheres were embedded and the radioactivity of organs were determined. The radioactivity of liver was 5, 20, 18 and 11 at 1, 6, 24 and 48 hours. The corresponding rate in kidneys and lungs was 5, 1, 7, 15 and 11, and 1, 6, 9, and 8, respectively, indicating remaining in abdominal cavity and effective occlusion of blood vessels.(Dwg.0/0)

CN - R01755-M R03521-M

DRL - 1755-U

IW - MICROSHERE TREAT CANCER DEEP ORGAN CONTAIN WATER INSOLUBLE METAL PHOSPHATE BLOOD VESSEL OCCLUE

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PHOSPHATE BLOOD VESSEL OCCLUE**

NC - 001

OPD - 1995-12-15

ORD - 1997-06-24

PAW - (HARA-I) HARADA N

- (POKK) POLA CHEM IND INC

**TI - Microspheres for treating cancer in deep organs - contain water
insoluble metal phosphate for blood vessel occlusion**